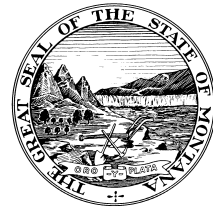




STATE OF MONTANA
Department of Military Affairs
Invitation for Bid
(This is not an order)



IFB Number:
090075

IFB Title:
Western Montana State Veterans Cemetery Wells (2)

IFB Due Date and Time:

December 03, 2008 2:00 p.m., Mountain
Standard Time

Number of Pages: 11

ISSUING AGENCY INFORMATION

Procurement Officer:
Sally Byrd

Issue Date:
11/18/08

Department of Military Affairs
Centralized Services Purchasing
P O Box 4789
1900 Williams Street
Fort Harrison MT 59636

Phone: (406) 324-3331
Fax: (406) 324-3335
TTY Users, Dial 711

Website: <http://dma.mt.gov/>

INSTRUCTIONS TO BIDDERS

**COMPLETE THE INFORMATION BELOW AND
RETURN THIS PAGE AND COST PROPOSAL
WITH YOUR BID AND ANY REQUIRED
DOCUMENTS TO THE ADDRESS LISTED
ABOVE UNDER "ISSUING AGENCY
INFORMATION."**

Mark Face of Envelope/Package:

IFB Number: 090075
IFB Due Date: 12/3/08

Special Instructions:

BIDDERS MUST COMPLETE THE FOLLOWING

Payment Terms: Net 30 days

Delivery Date:

Bidder Name/Address:

Authorized Bidder Signatory:

(Please print name and sign in ink)

Bidder Phone Number:

Bidder FAX Number:

Bidder E-mail Address:

Debarment: The contractor certifies, by signing this bid or proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency.

IMPORTANT: SEE STANDARD TERMS AND CONDITIONS

Standard Terms and Conditions – Invitation for Bid

By submitting a response to this invitation for bid, request for proposal, limited solicitation, or acceptance of a contract, the vendor agrees to acceptance of the following Standard Terms and Conditions and any other provisions that are specific to this solicitation or contract.

ACCEPTANCE/REJECTION OF BIDS, PROPOSALS, OR LIMITED SOLICITATION RESPONSES: The State reserves the right to accept or reject any or all bids, proposals, or limited solicitation responses, wholly or in part, and to make awards in any manner deemed in the best interest of the State. Bids, proposals, and limited solicitation responses will be firm for 30 days, unless stated otherwise in the text of the invitation for bid, request for proposal, or limited solicitation.

ACCESS AND RETENTION OF RECORDS: The contractor agrees to provide the department, Legislative Auditor, or their authorized agents, access to any records necessary to determine contract compliance. (Section 18-1-118, MCA). The contractor agrees to create and retain records supporting the services rendered or supplies delivered for a period of three years after either the completion date of the contract or the conclusion of any claim, litigation, or exception relating to the contract taken by the State of Montana or third party.

ALTERATION OF SOLICITATION DOCUMENT: In the event of inconsistencies or contradictions between language contained in the State's solicitation document and a vendor's response, the language contained in the State's original solicitation document will prevail. Intentional manipulation and/or alteration of solicitation document language will result in the vendor's disqualification and possible debarment.

ASSIGNMENT, TRANSFER AND SUBCONTRACTING: The contractor shall not assign, transfer or subcontract any portion of the contract without the express written consent of the department. (Section 18-4-141, MCA.)

AUTHORITY: The attached bid, request for proposal, limited solicitation, or contract is issued under authority of Title 18, Montana Code Annotated, and the Administrative Rules of Montana, Title 2, chapter 5.

COMPLIANCE WITH LAWS: The contractor must, in performance of work under the contract, fully comply with all applicable federal, state, or local laws, rules and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973, MCA Article VIII Sections 801 through 817. Any subletting or subcontracting by the contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

CONFORMANCE WITH CONTRACT: No alteration of the terms, conditions, delivery, price, quality, quantities, or specifications of the contract shall be granted without prior written consent of the Agency Procurement Officer. Supplies delivered which do not conform to the contract terms, conditions, and specifications may be rejected and returned at the contractor's expense.

DEBARMENT: The contractor certifies, by submitting this bid or proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. If the contractor cannot certify this statement, attach a written explanation for review by the State.

DISABILITY ACCOMMODATIONS: The State of Montana does not discriminate on the basis of disability in admission to, access to, or operations of its programs, services, or activities. Individuals who need aids, alternative document formats, or services for effective communications or other disability related accommodations in the programs and services offered are invited to make their needs and preferences known to this office. Interested parties should provide as much advance notice as possible.

FACSIMILE RESPONSES: Facsimile responses will be accepted for invitations for bids, small purchases, or limited solicitations ONLY if they are completely received by the State Procurement Bureau prior to the time set for receipt. Bids, or portions thereof, received after the due time will not be considered. Facsimile responses to requests for proposals are ONLY accepted on an exception basis with prior approval of the procurement officer.

FAILURE TO HONOR BID/PROPOSAL: If a bidder/offeror to whom a contract is awarded refuses to accept the award (PO/contract) or fails to deliver in accordance with the contract terms and conditions, the department may, in its discretion, suspend the bidder/offeror for a period of time from entering into any contracts with the State of Montana.

FORCE MAJEURE: Neither party shall be responsible for failure to fulfill its obligations due to causes beyond its reasonable control, including without limitation, acts or omissions of government or military authority, acts of God, materials shortages, transportation delays, fires, floods, labor disturbances, riots, wars, terrorist acts, or any other causes, directly or indirectly beyond the reasonable control of the nonperforming party, so long as such party is using its best efforts to remedy such failure or delays.

HOLD HARMLESS/INDEMNIFICATION: The contractor agrees to protect, defend, and save the State, its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the

contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

LATE BIDS AND PROPOSALS: Regardless of cause, late bids and proposals will not be accepted and will automatically be disqualified from further consideration. It shall be solely the vendor's risk to ensure delivery at the designated office by the designated time. Late bids and proposals will not be opened and may be returned to the vendor at the expense of the vendor or destroyed if requested.

PAYMENT TERM: All payment terms will be computed from the date of delivery of supplies or services OR receipt of a properly executed invoice, whichever is later. Unless otherwise noted in the solicitation document, the State is allowed 30 days to pay such invoices. All contractors will be required to provide banking information at the time of contract execution in order to facilitate State electronic funds transfer payments.

RECIPROCAL PREFERENCE: The State of Montana applies a reciprocal preference against a vendor submitting a bid from a state or country that grants a residency preference to its resident businesses. A reciprocal preference is only applied to an invitation for bid for supplies or an invitation for bid for nonconstruction services for public works as defined in section 18-2-401(9), MCA, and then only if federal funds are not involved. For a list of states that grant resident preference, see <http://gsd.mt.gov/procurement/preferences.asp>.

REFERENCE TO CONTRACT: The contract or purchase order number MUST appear on all invoices, packing lists, packages, and correspondence pertaining to the contract.

REGISTRATION WITH THE SECRETARY OF STATE: Any business intending to transact business in Montana must register with the Secretary of State. Businesses that are incorporated in another state or country, but which are conducting activity in Montana, must determine whether they are transacting business in Montana in accordance with sections 35-1-1026 and 35-8-1001, MCA. Such businesses may want to obtain the guidance of their attorney or accountant to determine whether their activity is considered transacting business.

If businesses determine that they are transacting business in Montana, they must register with the Secretary of State and obtain a certificate of authority to demonstrate that they are in good standing in Montana. To obtain registration materials, call the Office of the Secretary of State at (406) 444-3665, or visit their website at <http://sos.mt.gov>.

SEPARABILITY CLAUSE: A declaration by any court, or any other binding legal source, that any provision of the contract is illegal and void shall not affect the legality and enforceability of any other provision of the contract, unless the provisions are mutually dependent.

SHIPPING: Supplies shall be shipped prepaid, F.O.B. Destination, unless the contract specifies otherwise.

SOLICITATION DOCUMENT EXAMINATION: Vendors shall promptly notify the State of any ambiguity, inconsistency, or error which they may discover upon examination of a solicitation document.

TAX EXEMPTION: The State of Montana is exempt from Federal Excise Taxes (#81-0302402).

TECHNOLOGY ACCESS FOR BLIND OR VISUALLY IMPAIRED: Contractor acknowledges that no state funds may be expended for the purchase of information technology equipment and software for use by employees, program participants, or members of the public unless it provides blind or visually impaired individuals with access, including interactive use of the equipment and services, that is equivalent to that provided to individuals who are not blind or visually impaired. (Section 18-5-603, MCA.) Contact the State Procurement Bureau at (406) 444-2575 for more information concerning nonvisual access standards.

TERMINATION OF CONTRACT: Unless otherwise stated, the State may, by written notice to the contractor, terminate the contract in whole or in part at any time the contractor fails to perform the contract.

UNAVAILABILITY OF FUNDING: The contracting agency, at its sole discretion, may terminate or reduce the scope of the contract if available funding is reduced for any reason. (Section 18-4-313(4), MCA.)

U.S. FUNDS: All prices and payments must be in U.S. dollars.

VENUE: This solicitation is governed by the laws of Montana. The parties agree that any litigation concerning this bid, request for proposal, limited solicitation, or subsequent contract, must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana, and each party shall pay its own costs and attorney fees. (Section 18-1-401, MCA.)

WARRANTIES: The contractor warrants that items offered will conform to the specifications requested, to be fit and sufficient for the purpose manufactured, of good material and workmanship, and free from defect. Items offered must be new and unused and of the latest model or manufacture, unless otherwise specified by the State. They shall be equal in quality and performance to those indicated herein. Descriptions used herein are specified solely for the purpose of indicating standards of quality, performance, and/or use desired. Exceptions will be rejected.

SECTION 1: GENERAL REQUIREMENTS

1.0 INTRODUCTION

The STATE OF MONTANA, Department of Military Affairs (hereinafter referred to as "the State") is soliciting bids for two wells to be drilled at the Western Montana State Veterans Cemetery, Missoula Montana. A more complete description of the supplies and/or services sought is provided in Section 3 of this IFB. Bids submitted in response to this solicitation must comply with the instructions and procedures contained herein.

1.2 INSTRUCTIONS TO BIDDERS

1.2.1 Procurement Officer Contact Information. Contact information for the procurement officer is as follows:

Procurement Officer: Sally Byrd

Address: Department of Military Affairs, P O Box 4789, Fort Harrison MT 59636

Telephone Number: 406-324-333, Fax Number: 406-324-3335, E-mail Address: sbyrd@mt.gov

1.2.2 Examination of Solicitation Documents and Explanation to Bidders. Bidders are responsible for examining the solicitation documents and any addenda issued to become informed as to all conditions that might in any way affect the cost or performance of any work. Failure to do so will be at the sole risk of the bidder. Should the bidder find discrepancies in or omissions from the solicitation documents, or should their intent or meaning appear unclear or ambiguous, or should any other question arise relative to the solicitation documents, the bidder shall promptly notify the Procurement Officer in writing. The bidder making such request will be solely responsible for its timely receipt by the Procurement Officer. Replies to such notices may be made in the form of an addendum to the solicitation.

1.2.3 Interpretation or Representations. The State of Montana assumes no responsibility for any interpretation or representations made by any of its officers or agents unless interpretations or representations are incorporated into a formal written addendum to the solicitation.

1.2.4 Acknowledgment of Addendum. If the IFB is amended, then all terms and conditions which are not modified remain unchanged. It is the bidder's responsibility to keep informed of any changes to the solicitation. **Bidders must sign and return with their bid an Acknowledgment of Addendum for any addendum issued.** Bids that fail to include an Acknowledgment of Addendum may be considered nonresponsive.

1.2.5 Extension of Prices. In the case of error in the extension of prices in the bid, the unit price will govern. In a lot bid, the lot price will govern.

1.2.6 Bid Preparation Costs. The costs for developing and delivering responses to this IFB are entirely the responsibility of the bidder. The State is not liable for any expense incurred by the bidder in the preparation and presentation of their bid or any other costs incurred by the bidder prior to execution of a purchase order or contract.

1.3 BID SUBMISSION

1.3.1 Bids Must Be Sealed and Labeled. Bids must be sealed and labeled on the outside of the package to clearly indicate that they are in response to IFB number 090075. ***Bids must be received at the Purchasing Office of the Department of Military Affairs, Centralized Services Purchasing, P O Box 4789, 1956 Mt Majo Street, Fort Harrison MT 59636 prior to 2 p.m., Mountain Standard Time, on December 3rd 2008.*** All prices and notations must be printed in ink or typewritten. Errors should be crossed out, corrections entered, and initialed by the person signing the bid.

1.3.2 Late Bids. *Regardless of cause, late bids will not be accepted and will automatically be disqualified from further consideration.* It shall be the bidder's sole risk to assure delivery at the receptionist's desk at the designated office by the designated time. Late bids will not be opened and may be returned to the bidder at the expense of the bidder or destroyed if requested.

1.3.3 Bidder's Signature. The solicitation must be signed in ink by an individual authorized to legally bind the business submitting the bid. The bidder's signature on a bid in response to this IFB guarantees that the offer has been established without collusion and without effort to preclude the State of Montana from obtaining the best possible supply or service.

1.3.4 Alternate Bids. Vendors may submit alternate bids (a bid on supplies other than specified). Alternate bids are considered only if the vendor is the lowest responsible vendor on their primary bid. Bids must be clearly identified as "Primary" and "Alternate."

1.4 CHANGE OR WITHDRAWAL OF BIDS

1.4.1 Change or Withdrawal PRIOR to Bid Opening. Should any bidder desire to change or withdraw a bid prior to the scheduled opening, the bidder may do so by making such request in writing to the Procurement Officer listed in Section 1.2.1 above. This communication must be received prior to the date and hour of the bid opening by a request in writing or facsimile to the procurement officer (e-mail notices containing prices are not allowed and will be disqualified).

1.4.2 Change AFTER Bid Opening But Prior to Bid Award. After bids are opened, they may not be changed except to correct patently obvious mistakes and minor variations as allowed by ARM 2.5.505. The bidder shall submit verification of the correct bid to the State prior to the final award by the State.

1.5 BID AWARDS

1.5.1 Basis for Award. Bid award, if made, will be to the responsive and responsible bidder who offers the lowest cost to the State in accordance with the specifications set forth in the invitation for bid.

1.5.2 Rejection of Bids. While the State has every intention to award a contract as a result of this IFB, issuance of the IFB in no way constitutes a commitment by the State of Montana to award and execute a contract. Upon a determination such actions would be in its best interest, the State, in its sole discretion, reserves the right to:

- Cancel or terminate this IFB (18-4-307, MCA);
- Waive any undesirable, inconsequential, or inconsistent provisions of this IFB which would not have significant impact on any bid (ARM 2.5.505); or
- If awarded, terminate any contract if the State determines adequate state funds are not available (18-4-313, MCA).

SECTION 2: SPECIAL TERMS AND CONDITIONS

2.0 PREFERENCE NOT APPLIED

Reciprocal preference will not be applied to this purchase because federal funds are involved (ARM 2.5.408).

2.1 MEETINGS

The Contractor is required to meet with the State's personnel, or designated representatives, to resolve technical or contractual problems that may occur during the term of the contract or to discuss the progress made by Contractor and the State in the performance of their respective obligations, at no additional cost to the State. Meetings will occur as problems arise and will be coordinated by the State. The Contractor will be given a minimum of three full working days notice of meeting date, time, and location. Face-to-face meetings are desired. However, at the Contractor's option and expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings, two consecutive missed or rescheduled meetings, or to make a good faith effort to resolve problems, may result in termination of the contract.

2.2 COMPLIANCE WITH WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with the sections 39-71-401, 39-71-405, and 39-71-417, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor exemption, or documentation of corporate officer status. Neither the Contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the DMA Centralized Services Division, Procurement Officer, 1956 MT Majo Street, P.O. Box 4789, Fort Harrison, MT 59636-4789, upon expiration.

2.3 INSURANCE REQUIREMENTS

2.3.1 General Requirements. The Contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the Contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

2.3.2 Primary Insurance. The Contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

2.3.3 Specific Requirements for Commercial General Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property damage of \$300,000.00 per occurrence and \$600,000.00 aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns, or subcontractors.

2.3.4 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds for liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations; premises owned, leased, occupied, or used.

2.3.5 Specific Requirements for Automobile Liability. The Contractor shall purchase and maintain coverage with split limits of \$500,000 per person (personal injury), \$1,000,000 per accident occurrence (personal injury), and \$100,000 per accident occurrence (property damage), OR combined single limits of

\$1,000,000 per occurrence to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns, or subcontractors.

2.3.6 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds for automobiles leased, hired, or borrowed by the Contractor.

2.3.7 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be declared to and approved by the state agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees, and volunteers; or (2) at the expense of the Contractor, the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

2.3.8 Certificate of Insurance/Endorsements. Insurance must be placed with an insurer with a Best's rating of no less than A-. The certificate must also include the State's solicitation number. This insurance must be maintained for the duration of the contract. The DMA, Centralized Services Division, 1956 MT Major Street, P.O. Box 4789, Fort Harrison, MT 59636-4789, must receive all required certificates and endorsements within 10 days from the date of the Request for Documents notice before a contract or purchase order will be issued. Work may not commence until a contract or purchase order is in place. The Contractor must notify the State immediately of any material change in insurance coverage, such as changes in limits, coverage, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

2.4 CONTRACTOR PERFORMANCE ASSESSMENTS

The State may conduct assessments of the Contractor's performance. This contract may be terminated for one or more poor performance assessments. The Contractor will have the opportunity to respond to poor performance assessments. The State will make any final decision to terminate this contract based on the assessment and any related information, the Contractor's response, and the severity of any negative performance assessment. The Contractor will be notified with a justification of contract termination. Performance assessments may be considered in future solicitations.

2.5 MONTANA PREVAILING WAGE REQUIREMENTS

Unless superseded by federal law, Montana law requires that contractors and subcontractors give preference to the employment of Montana residents for any public works contract in excess of \$25,000 for construction or nonconstruction services in accordance with Title 18, Chapter 2, Part 4, MCA, and all administrative rules adopted pursuant thereto. Unless superseded by federal law, each contractor shall ensure that at least 50% of the Contractor's workers performing labor on a construction project are bona fide Montana residents. The Commissioner of the Montana Department of Labor and Industry has established the resident requirements in accordance with sections 18-2-403 and 18-2-409, MCA. Any and all questions concerning prevailing wage and Montana resident issues should be directed to the Montana Department of Labor and Industry.

In addition, unless superseded by federal law, all employees working on a public works contract shall be paid prevailing wage rates in accordance with Title 18, Chapter 2, Part 4, MCA, and all administrative rules adopted pursuant thereto. Montana law requires that all public works contracts, as defined in section 18-2-401, MCA, in which the total cost of the contract is in excess of \$25,000, contain a provision stating for each job classification the standard prevailing wage rate, including fringe benefits, travel, per diem, and zone pay that the contractors, subcontractors, and employers shall pay during the public works contract.

Furthermore, section 18-2-406, MCA, requires that all contractors, subcontractors, and employers who are performing work or providing services under a public works contract post in a prominent and accessible site on the project staging area or work area, no later than the first day of work and continuing for the entire duration of the contract, a legible statement of all wages and fringe benefits to be paid to the employees in compliance with section 18-2-423, MCA. Section 18-2-423, MCA, requires that employees receiving an hourly wage must be paid on a weekly basis.

Each contractor, subcontractor, and employer must maintain payroll records in a manner readily capable of being certified for submission under section 18-2-423, MCA, for not less than three years after the contractor's, subcontractor's, or employer's completion of work on the public works contract.

The Commissioner of the Montana Department of Labor and Industry has established the standard prevailing rate of wages in accordance with sections 18-2-401 and 18-2-402, MCA, Operator Group 2 Heavy Construction Zone 1 Base rate \$21.99 Fringe benefits \$8.55 located at:

<http://erd.dli.mt.gov/laborstandard/prevwage/state.asp>

2.6 TRANSITION ASSISTANCE

If this contract is not renewed at the end of this term, or is terminated prior to the completion of a project, or if the work on a project is terminated for any reason, the Contractor must provide for a reasonable period of time after the expiration or termination of this project or contract, all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this contract, except for those terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the contract. If there are no established contract rates, then the rate shall be mutually agreed upon. If the State terminates a project or this contract for cause, then the State will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages the State may have otherwise accrued as a result of said termination.

2.7 CONTRACT TERMINATION

2.7.1 Termination for Cause. The State may, by written notice to the Contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.

2.7.2 Reduction of Funding. The State, at its sole discretion, may terminate or reduce the scope of this contract if available funding is reduced for any reason (18-4-313, MCA).

2.8 COMPLIANCE WITH LAWS

The Contractor must, in performance of work under this contract, fully comply with all applicable federal, state, or local laws, rules, and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973, MCA Article VIII Sections 801 through 817. Any subletting or subcontracting by the Contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the Contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

SECTION 3: SPECIFICATIONS AND PRICING SCHEDULE

3.0 SPECIFICATIONS

Western Montana State Veterans Cemetery Missoula, Montana

Specifications -WATER WELL

PART 1 -GENERAL

1.1 DESCRIPTION

A. This section includes the furnishings of all labor, equipment, and materials to construct two (2) wells, both to be utilized for irrigation. This work includes drilling, casing, installation of pitless adapter, 20 feet of 2" line, Mueller H10288 2" Brass Curb stop with drain, Mueller H10304-02 6'6" curb box with 3 1/2 " tap, and terminate the 2" line in a irrigation control valve box at ground level with a 2" type D cam lock coupler, grouting, installing the screen, developing, sampling, and testing of the well.

B. Well drilling executed in excess of 110 feet will not be paid for unless the Contractor has prior written permission from the Engineer. Target water quantity is 55 gallons per minute per well.

C. Project oversight by the Engineer is limited and not full time. Compile thorough well records. Coordinate with the Engineer to optimize time on the project.

D. The Contractor for this work shall be a licensed Water Well Contractor in the state of Montana. The Contractor shall, at his own expense, procure all certificates and licenses required of him by law for the execution of his work. Log and test the well and file all necessary reports and permits required to obtain a completed water supply ready for use. This includes a temporary discharge permit and other permits as applicable and required by the State of Montana and local City and County governments.

1.2 LOCATION

A. The site is located near the intersection of Tower and North Ave in Missoula, MT. Access is from either street and through open fields to the drill site. An irrigation ditch restricts access between the two drilling locations.

B. The approximate well location is shown on the project drawings. The Engineer will stake the well location in the field. The intent of the project is to drill two 55 gpm wells (35 gpm x 1.5 DEQ flow safety factor). Thirty five (35) gpm will be the final water quantity for water right purposes.

1.3 LOCAL CONDITIONS

A. The target aquifer for the well is the alluvium of the Bitterroot and Clark Fork River drainages. Boulders, large cobbles, gravel, sand, and clay may be encountered while drilling this alluvial formation. A project requirement is to determine the well hydrogeological characterization of the alluvium aquifer to the depth of about 110 feet below ground surface (bgs). The above is based on local well logs. Local conditions for any additional wells drilled would likely be similar to the alluvium described.

B. Geological mapping and lithologic logs from wells near this site indicate that unconsolidated silty, clayey, gravelly, sands are likely to be found for the full well depth. This alluvium overlies sedimentary bedrock over much of the surrounding area. This alluvium is the targeted water source in the drilling.

C. The likely depth to the bedrock should exceed the well depth. If bedrock is encountered quit drilling and obtain engineer approval prior to commencing drilling. Water in the bedrock layers occurs primarily in fractures. The target open interval is likely to be shallower than the bedrock in the alluvium.

D. A previous well has been drilled on the site. Total depth was about 118 feet BGS. Drill sampling of this well found gravels, silts, clays, and sand; with sandy gravel encountered from about 5 feet to 118 feet BGS. Copies of this well log are available from the Government.

1.4 SHOP DRAWINGS AND SUBMITTAL

A. Complete drawings and specifications will be submitted illustrating and describing all materials used including temporary and permanent well casings, grout, well cap, well screen, filter pack, and packers, as well as drawings and specifications illustrating and describing the methods employed in drilling, installing, grouting, developing, and testing of the well, and site restoration. All of these materials and methods shall be submitted in accordance with the Project Submittal Requirements prior to final payment.

B. Submit the following prior to construction:

1. Materials to be utilized
2. Any planned deviations from specifications
3. Well water disposal and site restoration plans
4. Decontamination and disinfection plans
5. Equipment and Methods for:
 - a. Drilling
 - b. Casing perforation & sample
 - c. Grouting
 - d. Plumpness & Alignment Test
 - e. Well Development
 - f. Development Testing
 - g. Pump Testing

Submit the following prior to final payment:

1. Record Drawings
2. Materials utilized
3. Any actual deviations from specifications or preconstruction submittal
4. Records Including:
 - a. Daily Log
 - b. "Well Log Report"
 - c. Development Records
 - d. Test Pump and Disinfection Information

1.5 WELL TYPE

The well shall be similar to Type 5 (AWWA Standard for Water Wells, A100-97) with the protective grouting terminating a minimum 20' below the surface. Approximately 10 feet of screened (open, slotted) interval is expected. Well standards as required in Title 37, MCA and Title 36, ARM, apply for both wells.

1.6 WELL ABANDONMENT

A. In the event the Contractor fails to drill the well as specified or abandon the well because of misalignment to avoid some obstruction because of loss of tools in the well or any other reason, no payment will be made for the depth drilled. The Contractor shall fill the hole with a neat cement grout using a pipe, trennie or bailer and remove the casing as required by law. Salvaged materials furnished by the Contractor shall remain his material.

B. If the yield or quality of water produced by a well is unsatisfactory to the Owner, the Engineer may direct the Contractor to properly abandon the well. Costs associated with such abandonment will be paid for at the unit price for well abandonment or Change Order procedures if applicable. The well shall be abandoned in a manner satisfying all applicable regulations as stipulated by the MT DNRC and Montana Code Annotated.

1.7 ENVIRONMENTAL PROTECTION

The Contractor shall comply with all laws and regulations of the State Engineer, and with all other federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumen chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

1.8 STANDBY TIME

No separate payment will be made for standby time, inactive periods beyond Contractor control or inactive periods resulting from requirements of this Contract. Such time will be considered incidental to the required work. Standby time can be expected but not limited to time during drilling, testing and screen sizing.

1.9 DISPOSAL OF WELL WATER

A. Well water from well drilling, development and testing procedures shall be discharged in such a manner as to prevent any damage to surrounding property or structures, meet any local, state and federal regulations, and be approved by the Engineer. Specifically, the Contractor must submit to the Engineer the proposed water disposal location and method, and obtain any necessary permits. Permitting is typically required if discharge reaches a surface water source. The Contractor shall dispose of his well water to have no adverse effects on pump testing.

B. If required by the State Engineer the Contractor shall provide a sediment catching settling tank for catching of all drill cuttings and drill water prior to disposal. This tank shall be capable of settling out all drill cutting larger than sand size. The drill cutting shall be properly disposed by the Contractor on a regular basis to allow for proper sediment control in the sediment settling tank and a clean work site.

C. The Contractor shall provide for proper disposal of the drill water by use of a temporary pipe system from the sediment settling tank to the designated discharge location. If applicable, this system shall include provisions for vehicles and pedestrians to cross the pipe at all times at sidewalks and parlung accesses. The discharge water shall not be allowed to flow over the land surface causing any flooding, erosion or sedimentation damage.

1.10 ARTESIAN CONDITIONS

Artesian conditions (non-flowing) have been noted in some neighboring wells. If artesian water is encountered in the well, an un-perforated well casing shall extend into the confining stratum overlying the artesian zone. The casing shall be adequately sealed into the confining stratum so as to prevent surface and subsurface leakage from the artesian zone. If the well flows at land surface, it shall be equipped with a control valve so that flow can be completely stopped. The well shall be completed with seals, packers, and neat cement grout that will eliminate leakage around the well casing. The driller shall not move his drilling rig from the well site until the leakage has been completely stopped. Payment for control of artesian conditions shall be managed through change order procedures.

1.11 DISINFECTION

A. If a filter pack is necessary, sand and gravel used in filter pack wells shall be thoroughly hosed or sluiced with water and shall be disinfected with a solution containing at least 50 parts per million chlorine before being placed in the well. All water introduced into a well during construction shall be clean and potable.

B. All drilling equipment and well materials shall be thoroughly cleaned at the start of the (each) well construction effort. The goal of this cleaning is to eliminate the possibility of contamination from off-site or between wells. Metals and bacteria are the primary contaminants of concern. Submit the construction decontamination and disinfection plan to the Engineer prior to construction.

C. All the well materials and equipment, including the interior of the well casing, shall be thoroughly swabbed with disinfectant and cleaned to remove all oil, grease, and foreign substances upon completion of the well's construction.

D. Following the completion of the water well, and again after the pumping equipment has been installed, the well and its equipment shall be disinfected by thoroughly agitating and mixing in the well a solution containing enough chlorine to leave a residual of 50 parts per million throughout the well after a period of 24 hours. The chlorine disinfectant shall then be pumped out of the well and disposed of properly.

1.12 PUMP TESTING

Three separate pump tests may be required on this project:

A. Testing During Drilling. To ascertain productive water bearing zones pump testing may be required by the Engineer during the drilling process. This testing will not be paid for separately unless directed by the Engineer to install a test pump. This testing shall determine if / where the well should be screened and developed. Yield testing and developing during drilling is considered incidental work.

B. Development Testing. See section 3.4 WELL DEVELOPMENT. Expect at least of 4 hours of development testing per well.

C. Yield Testing. See section 3.5 TESTING FOR YIELD AND DRAWDOWN. 24 hour pump tests and full (8 hr estimated) recovery monitoring are required for both wells.

PART 2 -MATERIALS

2.1 CASING MATERIAL

A. Permanent Protective Casing. Protective Casing shall be of 6" new steel pipe (black or galvanized) Schedule 40, meeting AWWA Standard A-100 for water well construction. The casing shall be equipped with a drive shoe if driven and have full circumferential welds at joints.
The protective casing will have the following minimum weights and nominal dimensions:

OD 6.625"

Thickness 0.28"

Weight per foot for plain end pipe 18.97 lbs.

The contractor shall size the casing to have additional thickness and weight if minimum thickness is not considered sufficient to be capable of withstanding the forces to which it is subjected.

B. Temporary. All temporary casing used for construction shall be steel and shall be capable of withstanding the structural load imposed during its installation and removal.

2.2 WELL SCREEN (SLOTTED OPEN INTERVAL)

A. Material. The screen shall be constructed entirely of Type 304 stainless steel and shall have adequate strength to resist external forces applied to it after installation and to minimize the likelihood of damage during installation. Blank casing sections of the screen string may be properly sized new steel similar to the casing.

B. Type. The screen shall be the continuous slot type "Stainless Steel Vee-Wire, Telescope Size" as manufactured by Johnson Division, St. Paul, MN, or an equal approved by the Engineer.

C. Diameter and Length. The screen shall have sufficient diameter and length to provide adequate specific capacity and low aperture entrance velocity. The entrance velocity shall not exceed 0.08 feet per second. Minimum inside diameter is 4-718 inches.

D. Openings. The size of the openings shall be determined in accordance with the effective size and uniformity of the material in the water-bearing strata or artificially introduced gravel pack material. The openings or slots shall be so designed as to prevent clogging and shall be free of jagged edges, irregularities, or anything that will accelerate entrance velocities or contribute to clogging or corrosion.

E. Design. Multiple sections of screen may be required, depending upon geologic conditions encountered. Well screening will be in the presence of the Engineer and at the elevations determined by the Engineer. The screen shall be placed by bailing or drilling an open hole or by pulling back the casing to expose the screen in the water-bearing formation.

The screen shall be installed so the pumping water level remains above the screen under all operating conditions. It shall be provided with a blank casing sump and a bottom plate or wash down bottom fitting of the same manufacturer and material as the screen (Johnson tight wind screen) or similar material to the permanent well casing. The Contractor shall provide proper fittings approved by the manufacturer for attachment of multiple screen sections to the casing sections.

The Engineer may elect to not screen or case the lower interval of the drilled hole.

This interval will be backfilled with material approved by the Engineer (typically disinfected coarse drill cuttings or pea gravel). Backfilling will not be paid for as an individual item.

2.3 PACKERS

Packers shall be required depending on the drillers well construction methods as approved by the Engineer. The packers shall be of material that will not impart taste, odor, toxic substance, or bacterial contamination to the well water.

Flexible formation packers shall be self-sealing of neoprene rubber and low carbon steel as manufactured by Johnson Division, St. Paul, MN, or an equal approved by the Engineer.

Well transition packers used for the transition between the screen section riser pipe and the permanent steel casing shall be a "Figure K" model of neoprene with a stainless steel transition ring as manufactured by Johnson Division, St. Paul, MN, or approved equal.

2.4 GROUT

The grout shall be a bentonite clay or neat cement grout. Grout materials shall comply with applicable well construction standards as described in Title 36, Chapter 21 ARM, most recent addition (1.5" min all around for 0' to 20' bgs).

2.5 WELLCAP

The temporary well cap shall be a galvanized or painted steel locking well cap, hinged and suitable for padlocking. The cap shall be sized to match the permanent well casing diameter. The base of the cap shall be attached to the casing so that no exposed screws or other means of attachment could be removed by unauthorized personnel.

Other portions of the project require installation of a pitless adapter after well drilling. See drawings and Specification SECTION 11040 -SUBMERSIBLE WELL PWS.

2.6 GRAVEL PACK

The Contractor may elect to gravel pack the well. The gravel pack design and material shall be submitted to and approved by the Engineer prior to installation. Gravel pack materials and installation shall comply with Title 36, Chapter 21, ARM.

PART 3 -EXECUTION

3.1 RECORDS

Keep an accurate log of the well and record (depths, date and time) of the well drilling operations, which shall provide the following information:

- A. Record of hours spent drilling each day and depths drilled.
- B. Record of top and bottom of each geologic stratum encountered and driller's detailed description of material (rock type, color, shape, hardness, grain size, percent sand, silt & clay).
- C. Record of water-bearing strata encountered and estimated yield.
- D. Record of material and water samples taken.
- E. Record of static water level (SWL) at:
 - Observable changes of SWL with depth;
 - Start of each set up day; and
 - Subsequent to recovery after development.
- F. Other matters of interest such as heaves, boulders, cemented strata, etc.
- G. Record of tests for yield and drawdown.
- H. Record of pumping water level or drawdown at test pump rates.
- I. Length, type, and placement of screen or perforated casing.
- J. Record of drill hole diameters and depths.
- K. Record of assembled order of size, type, and length of casing.
- L. Record of grouting and filter pack depths and installed volume.
- M. Record of lost circulation
- N. Record of development type, time, and testing.
- O. Reference point for all depth measurements.

These records shall be updated on a daily basis by the drilling Contractor and shall be copied to the Engineer when requested (especially important during screen opening interval design). In addition to the above records, the Contractor shall prepare 5 copies of the "Well Log Report" (available from department of Natural Resources, Helena, Montana) and will make distribution of the compiled copies as follows: 1copy to the Bureau of Mines and Geology;

- 1. copy to the Department of Natural Resources; 1 copy to the County Clerk and Recorder; and
- 2. copies to the Engineer. Contractor shall submit the well log report to the Engineer for review prior to sending to other listed recipients.

3.2 SAMPLES AND TESTING

A. Formation Samples. The Contractor shall secure representative samples of all materials encountered in the formations drilled in the well. These samples shall be taken at least as often as required by the following:

- 1. One sample at the beginning of each change in litho logic material encountered.
- 2. One sample (minimum) for each 10 feet in non-water-bearing formations or in highly impermeable material.
- 3. One sample (minimum) for each 5 feet drilled through a water-bearing aquifer.
- 4. One sample for each 2 feet drilled in the proposed area of screen installation (95 -105 feet bgs).

Samples shall be taken by such means as will assure a representative sample of the virgin material free from effects of well drilling. The sample may be secured with a suction type sand bucket, or by driving a smaller casing ahead of the drilling and removing the casing with its core, or by other means so long as the method used will assure securing the required representative sample. Care shall be taken to accurately determine the depth of the material sampled.

Each sample shall be at least one pint in size and shall be placed immediately in cloth bags, one-gallon Ziploc freezer bags, or plastic containers, supplied by the Contractor. Each sample container shall be durable and securely tied shut or capped and clearly labeled with the location of the well, the depth at which the sample was taken, the number of feet of formation that the sample represents, and the date and time taken. Store all samples in a suitable and safe place until the well has been completed and final payment is made, unless directed by the Engineer to ship the samples to a testing laboratory prior to completion of the well.

The Engineer will determine if laboratory sampling is necessary and will approve all samples that are to be sent in for testing. Laboratory testing required to select the proper size and type of well screen will be paid for by the Contractor. This cost is often included as part of the services of the well screen supplier. Approved samples shall be sent to an approved laboratory where the following tests will be conducted:

1. Grain-size analysis using at least 5 standard sieves.
2. Determination of uniformity coefficient. A copy of the laboratory results will be sent to the Engineer.

B. Water. As directed by the Engineer, secure a 1M-gallon sample of the water from the water-bearing strata each time it is encountered. In addition, one or more water samples from the well may be taken by the Engineer during drilling and during the pump testing. Samples shall also be taken at the conclusion of the pump testing procedure and well disinfection procedures. Water sampling shall be done by a method that will ensure a representative sample of the water-bearing strata encountered and that will ensure no non-representative contamination and a low turbidity sample relatively free of particulate matter. For a sample to be considered representative a minimum of three well volumes shall be removed immediately prior to securing the sample. Based on field analysis, the Engineer may require up to 10 additional well volume removals. The bottle(s) containing the sample shall be clean polyethylene clearly marked with the location of the well, the date and time taken, and the depth of the strata from which the water was taken. The Contractor shall pack and store water samples to prevent breakage and placed in a suitable and safe place until the well is completed, unless directed by the Engineer to ship the samples to a testing laboratory prior to completion of the well.

1. Samples Taken Prior to Completion of Pump Testing. Up to two water samples for each well are be required to be taken prior to conclusion of the pump testing procedure. The Contractor may be required to take additional samples as necessary to comply with turbidity / sedimentation requirements during well development. (See 3.D. Well Development). These samples shall be analyzed for the following constituents: turbidity, pH, TSS and conductivity.

3.3 WELL CONSTRUCTION

A. The well shall be drilled plumb and free from obstruction using cable tool or air rotary methods with water and / or a foaming agent. The use of drilling mud is not permitted unless specifically authorized by the Engineer in writing. The equipment / driller must be able to determine accurate water bearing locations and quantity during the drilling process. C&le tool rigs will need to conduct yield (bailer) checks and air rotary rigs will need to conduct air lift yields routinely during drilling. Drilling equipment shall have sufficient capacity to drill the largest diameter hole to the required depth as shown in these specifications. Provide sanitary (targeting iron bacteria and potable water contaminants) and weed free drilling equipment for the project. This typically requires steam cleaning just prior to mobilizing on the site.

Anticipate grouting method employed and as necessary drill a large enough diameter to provide a minimum annular opening of 1-112" between the protective casing and the outer casing or bore hole to facilitate proper grouting. Adding bentonite during driving of casing is not an acceptable grout installation method.

B. Procedure in Water-Bearing Strata. When the water-bearing strata are reached, the driller shall notify the Engineer. The Engineer reserves the right to demand a suitable water-bearing strata be developed before proceeding to greater depths. This preliminary development may be with air, and will not be measured for payment unless it exceeds 1 hour per drill hole.

In the event sufficient water is not reached at the maximum specified depth, the Contractor shall cease drilling and contact the Engineer. The Engineer will direct the Contractor in writing at that time (after Engineer consultation with the Owner) to either abandon the well, or continue drilling.

C. Protective We31 Casing. The permanent protective well casing will extend from at least 18 inches above the ground surface to the finished depth of the well (minimum 25 feet bgs, excluding sections of the well which are screened). The casing shall be grouted completely from the surface to 20 feet bgs.

Casings shall have butt-welded joints with sufficient passes of continuous weld being applied so the finished surface at the area of fusion is built up to the surface of the adjoining pipe and is watertight. Welding of casings shall be done in accordance with the recommended standards of the American Welding Society.

D. Centralizer. The protective steel casing shall be fitted with proper centering brackets to ensure the casing string will be plumb and centered in the borehole.

E. Temporary. Any temporary casing used during well construction shall be capable of withstanding the structural load imposed during its installation and removal. The temporary casing shall be completely withdrawn as grout is applied.

F. Well Screen (Open Interval). The well open interval shall be placed opposite water- bearing fractures as determined by the Engineer. The Engineer shall determine open interval location in conjunction with the driller. Multiple sections of open interval may be required.

G. Sealing and Grouting. The well shall be grouted to a minimum of 20' below ground surface to provide a watertight well and exclude pollution from shallower formations. The annular opening between the protective steel casing and the hole shall be filled with cement or bentonite clay grout. Sealing and grouting requirements vary with formation type encountered. The Contractor shall comply with applicable well construction standards as described in Title 36, Chapter 21 ARM, most recent addition. Before proceeding with the placing of the grout, the Contractor shall secure the Engineer's approval of the method he intends to use.

1. In installing, developing, redeveloping or conditioning a well, care shall be taken to preserve the natural barriers to ground-water movement between aquifers and to seal aquifers or strata penetrated during drilling operations which might impair water quality or result in cascading water. All sealing shall be permanent and prevent possible downward movement of surface waters in the annular space around the well casing. Sealing shall be accomplished to prevent the upward movement of artesian waters within the annular space around the well casing that could result in the waste of ground water. The sealing shall restrict the movement of ground water either upward or downward from zones that have been cased out of the well.

H. Plumbness and Alignment. All holes shall be constructed and all casings and liners set round, plumb, and true to line as defined herein. To demonstrate the compliance of the work with this requirement, the Contractor shall furnish all labor, tools, and equipment and shall make the tests described herein in the manner prescribed. Alternate plumbness and alignment test methods must receive the Engineer's prior written approval. Tests for plumbness and alignment must be made after the complete construction of the well and before its acceptance. Additional tests, however, may be made by the Contractor during the performance of the work. If the plumbness test fails, payment for this item will not be made by the owner.

The Engineer may waive the requirements of this section for plumbness if, in his judgment: 1) the Contractor has exercised all possible care in constructing the well and the defect is due to circumstances beyond his control; and 2) the utility of the completed well will not be materially affected.

1. Plumbness and alignment shall be tested by lowering into the well a section of pipe 40' long or a dummy of the same length. The outer diameter of the plumb shall not be more than 112" smaller than the diameter of that part of the casing or hole being tested. If the dummy is used, it shall consist of a rigid spindle with 3 rings, each ring 12" wide. The rings shall be truly cylindrical and shall be spaced one at each end of the dummy and one in the center thereof. The central member of the dummy shall be rigid so it will maintain the alignment of the axis of the rings. Should the plumb or dummy fail to move freely through the length of the casing or hole or should the well vary from vertical in excess of 213, the smallest inside diameter of that part of the well being tested per 100' of depth or beyond limitations of this test, the plumbness and alignment of the well shall be corrected by the Contractor at his expense. Should the Contractor fail to correct such faulty alignment or plumbness, the Owner may refuse to accept the well; and the Contractor will be directed to drill a new well within 10' of the same location at no additional cost to the Owner.

3.4 WELL DEVELOPMENT.

A. General. The development of the well shall remove the native silts and clays and drilling fluid debris residues deposited on the borehole face and in adjacent portions of the aquifer during the drilling process. If organic drilling fluids are used, they must be broken down chemically according to manufacturer's recommendations before or during development. The length of time of developing shall be determined by the Engineer and Contractor depending on the type of water-bearing formation encountered. The objective of the development process is to maximize specific capacity and to provide sand free water.

B. Method. The primary development process shall be carried out by surging and bailing the well. The surging shall be accomplished by a solid or valve surge block. The Engineer shall approve the surge block and related apparatus before its use is permitted. Surging shall start slowly just below the static water level and continue at a faster rate once free flow into the screen is assured. Thereafter, the surge block shall be lowered gradually into the screened area. Methods in addition to surge blocking, such as jetting with water, may be employed after Engineer review through the submittal processes.

C. Development Test Furnish all necessary pumps, compressors, plungers, bailers, discharge piping, flow meters, or other needed equipment and develop the well by approved methods as necessary to give the maximum yield of water per foot of drawdown and extract from the water-bearing formation the maximum practical quantities of fines and drill cuttings. Test the well for development using a pump with lift and production capacity in excess of the final anticipated capacities. Develop the well until:

1. The turbidity has an NTU value of less than 5 (Engineer measured).
2. Suspended solids (Contractor measured) content average less than 5 mg/l when the well is pumped at the target production rate for 2 hours.
3. At least 5 sediment content measurements have been taken.
4. There is no increase in specific capacity during at least 10 continuous hours of pumping and surging.

D. Development Records. Record the following information in the process of development:

1. Quantity and Description of material brought into the well.
2. Static and pumping water levels.
3. Methods of measurement.
4. Duration of each development operation.
5. Observation of results.
6. Production rates and specific capacity.
7. Sediment content as a function of production rate and time.
8. Sediment content as a function of production rate and specific capacity.
9. All other pertinent information.

E. Any blasting and chemical conditioning methods covering equipment and controls for increasing the yield of ground water structures shall be submitted for approval to the State Board of Health, Ground Water Branch of Bureau of Mines and Geology, and to the Owner. Use such methods to increase yield at no additional cost to the Owner unless agreed to through prior written Change Order procedures.

3.5 TESTING FOR YIELD AND DRAWDOWN

A. Time of Test. After the well has been completely constructed and developed and its depth accurately measured, the Contractor shall notify the Engineer to that effect and shall make the necessary arrangements for conducting a final pumping test. Besides this final test, the Engineer may order the Contractor to make such additional pumping tests during and after construction, as he deems necessary. Run all tests with similar equipment and in a like manner to that hereinafter described.

B. Test Pump. The Contractor shall furnish and install necessary pumping equipment capable of pumping to the required point of discharge the minimum of 20 gallons per minute and up to 200 gallons per minute. The exact pumping level will be determined by the Engineer at the time of the test and will be a minimum of 1.5 times the design-pumping rate. The pump shall be equipped with satisfactory throttling devices so the discharge rate may be reduced to 10 gallons per minute. Provide a pumping unit complete with a prime mover of ample power, controls, and appurtenances, and capable of being operated without interruption for a period of 24 hours.

C. Auxiliary Equipment. Furnish all necessary discharge piping for the pumping unit of sufficient size and length to conduct the water being pumped to the appropriate point of disposal. A control valve shall be installed so the discharge rate will not vary more than 5% from the average rate. Contractor shall also furnish, install, and maintain equipment of approved size and type for measuring the flow of water. This equipment shall be a water meter, weir box, orifice, or other approved methods (not a 5 gallon bucket and stopwatch). The Contractor shall furnish all necessary equipment and devices to record the water surface elevation in the pumping well accurately and at intervals described under Subsection 6, Measurement Time Intervals. The appropriate point of disposal for test pumped water shall be a location at least 200 feet down gradient from the pumping well. The Contractor is responsible for associated permitting as described in the section SEDIMENT CONTROL. Proposed water disposal locations shall be submitted to the Engineer as required in the contract submittal requirements.

1. Observation Wells. The test shall include the measurement of up to 3 observation locations in addition to the pumping well. These observation wells will be identified in the field by the Engineer. The Contractor shall provide for the measurements and measurement equipment for all observation and pumping wells.

D. Duration of Test. The Contractor shall provide all labor, motive power, lubricating oil, and other necessary materials, equipment, labor, and supplies required and shall operate the pumping unit at such rates of discharge and for such periods of time as directed. The final test shall be run for a period of at least 24 continuous hours and until a stabilized drawdown has continued for at least 8 hours (6 hours if design pumping rate is less than 35 gallons per minute). The test will be for 72 hours if design pumping rate is greater than 150 gpm. Interrupted tests will not be compensated for by the Owner. After completion of the final test, remove, by bailing, sand pumping, or other methods, any sand, stones, or other foreign material that may have become deposited in the well. Time stated for the duration is a minimum only, and the Engineer reserves the right to require the Contractor to extend such period of test or make additional tests.

E. Information Required. Completely fill out and use DNRC Form 633 available at http://dnrc.mt.gov/wrd/water/rtslwr_general_info/wrforms/633.pdf. Submit the following data to the Engineer:

1. Test pump capacity -head characteristics
2. Static water level
3. Depth of test pump setting
4. Time of starting and ending each cycle
5. Yield measurement method

Provide recordings and graphic evaluation of the following at 30-minute intervals or less as described under the following Subsection F, Measurement Time Intervals:

1. Pumping rate
2. Pumping surface water level
3. Drawdown versus time
4. Water recovery levels versus time

F. Measurement Time Intervals. During the pumping test, the watches of all observers shall be synchronized before the test begins and record times to the nearest 10 seconds.

1. Record water-level measurements (to 0.01 feet) for the pumped well at the following times:

Time Since Pumping Started Time Intervals Between (or Stopped) in Minutes Measurement in Minutes

0- 10 0.5 -1
 10 -15 1
 15 -60 5
 60 -300 3 0

300 -480 60
 1440 -termination of test 480 (8 hr)

2. Take water-level measurements in observation wells (see above reference Part 3.5 .C. 1) at the following times:

Time since Pumping Started Time Intervals Between (or Stopped) in Minutes Measurement in Minutes

120 -240 10
 240 -360 3 0
 360 -1440 60

1440 -termination of test
 480 (8 hr)

Note any unusual event(s) during the test. Record water-level recovery measurements with the same frequency as those taken during the pumping portion of the test.

3.6 WELL CAP AND COMPLETION

A. Sand Pumping. Pump clear any sand fines that may have collected in the well sump below the open interval during testing or development. Conduct this "sand pumping" after pump testing and prior to installation of any permanent pump.

B. Well Cap. Cut the top of the well casing square and uniform to provide a flush seat for the well cap. Ground or file smooth all rough edges and projections. Provide a well cap as specified in the drawings.

C. Surface Grading. Grade the ground surface immediately surrounding the top of the well casing to drain surface water away from the well.

D. Cleaning and Disinfection. Take care to prevent dirt or other contamination from entering the well during installation. After the well has been completely constructed and tested, thoroughly clean all foreign substances, including tools, timbers, rope, debris of any kind, cement, oil, grease, joint dope and scum. Thoroughly swab the casing pipe, screen or open interval, using alkalis if necessary, to remove oil, grease or joint dope.

After cleaning, disinfect the well with a chlorine solution of at least such volume and strength to result in a concentration of 50 parts per million of free available chlorine in all parts of the well. All the well surfaces above

the static level shall be completely flushed with the solution. Allow the chlorine to stay in the well for a minimum of 24 hours, and then pump the chlorine disinfectant out of the well, disposing of properly.

One or more water samples shall then be obtained in sterilized containers and shipped to the DEQ (or other approved lab) for bacterial analysis. Disinfection sampling and analysis is paid for by the Contractor. If the samples prove to be unsatisfactory, the Contractor shall repeat the disinfection process until satisfactory results are obtained.

3.1 PRICES

3.1.1 Taxes, Shipping, and Invoicing. The prices herein specified, unless otherwise expressly stated, shall exclude all taxes and duties of any kind which either party is required to pay with respect to the sale of products covered by this IFB, but shall include all charges and expenses in connection with the packing of the products and their carriage to the place of delivery to the State unless specifically excluded. Bid prices shall include any and all transportation costs. The Contractor shall be paid, except as otherwise stated in this IFB, upon submission of a proper invoice, the prices stipulated herein for products, and/or services delivered to and accepted at the specified State location(s).

3.1.2 Price Adjustments Negotiated Based on Changes in Contractor's Costs. Price adjustments may be permitted at the time of contract renewal through a process of negotiation with the Contractor and the State. Any price increases must be based on demonstrated industrywide or regional increases in the Contractor's costs. Publications such as the Federal Bureau of Labor Statistics and the Consumer Price Index (CPI) for all Urban Consumers may be used to determine the increased value.

3.2 ALL-OR-NONE AWARD

Awards will be made on an **all-or-none** basis. Failure of a bidder to provide prices for all line items listed on the Schedule may be cause for rejection of the entire bid. However, a bidder may enter "No Cost" in the unit price and extended amount columns to indicate that the item is being offered at "No Cost."

3.5 COST PROPOSAL

Provide the total project cost based on 110' depth \$ _____

Provide cost breakdown per additional foot of drilling \$ _____

Timeline for completion _____

DMA, Veterans Affairs is requesting completion prior to January 31, 2009

Vendor to identify any exceptions to item/service specifications.

IFB Checklist

Have you remembered to:

- Check our website for the latest addendum to the IFB
- Sign each "Acknowledgment of Addendum" if required
- Sign your bid on our cover sheet
- Mark mailing envelope or box with the IFB number and the opening date under return address
- Carefully review the "Standard Terms and Conditions"
- Carefully review all listed requirements to ensure compliance with the IFB
- Initial all bid/pricing changes you made
- Bid F.O.B. Destination (Ship To: Address) Freight Prepaid